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EXAMINER

LI, GUANG W

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/551,795 | <b>Applicant(s)</b><br>IKEDA, SHINKICHI |  |
|                              | <b>Examiner</b><br>GUANG LI          | <b>Art Unit</b><br>2446                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment date 10/07/2008
2. Claims 1-10 and 12-17 are presented for examination.

### **Request for Continued Examination**

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/07/2008 has been entered.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-10 and 12-17 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. In claim 1, regarding the phrase "for setting a home network to all of the communication links" in line 6, it is unclear what's consider as all of the communication links whether or not include the communication link that request for network information.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-10, 12 and 14-17 rejected under 35 U.S.C. 102(e) as being anticipated by Takeda et al. (US 7,328,014).

9. Regarding claim 1, Takeda teaches a home link setting method by a home gateway device having a home agent function for accommodating terminals including a first mobile terminal, the home gateway device being connected to communication links, the method comprising:

a step of transmitting, by the home gateway device, a solicitation message requesting network information for setting a home network to all of the communication links (gateway sends solicitation message sends to all the DHCP agent and server to request information “The gateway equipment 2 sends a DHCP Solicit message addressed to All\_DHCP\_Relay\_Agents\_ and\_Servers address to discover a DHCP server capable of distributing the prefix (109)” Takeda: see col.8 lines 33-38; Fig.9 item 109);

a step of receiving, by the home gateway device, an advertisement message including the network information (gateway receives advertise message includes the IA\_PD option and client identifier option “The gateway equipment 2b receives the DHCP advertise message (110). A

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check is then made that the IA\_PD options and client identifier option of the received message contain correct values and that the server identifier option is included in the received message” see Takeda: col.8 lines 43-47; Fig.9 item 110);

a home link selecting step of selecting, by the home gateway device, a home link from among the communication links other than a communication link which has received the network information (gateway equipment 2 send authentication reply to the MN3 that is different the communication link that GW 2b send to HA for the request network information “The gateway equipment 2 then creates a new entry in the acceptable address list 340, and sends an authentication replay containing prefix information to MN3 (113)” see Takeda: col.9 lines 1-4; Fig.9 items 109-110 and 113); and

a home agent setting step of executing, by the home gateway device, an internal setting so as to conduct a home agent function with respect to mobile terminals on the home link (gateway equipment 2b received the IP address from the DNS server and send authentication reply to the MN 3 “The server section 12 may also use the DHCP Reply message (112 in FIG. 9) to notify the gateway equipment 2b with information such as the IP address of the DNS server 10. The gateway equipment 2b sends an authentication response containing information received from the server section 12 (76)” see Takeda: col.10 lines 56-61; Fig.9 items 109-113).

10. Regarding claim 2, Takeda taught the home link setting method according to claim 1 as described above. Takeda further teaches in said home link selecting step, a respective communication link to which the first mobile terminal complying with a mobile IP protocol is connected is designated as the home link (home address associated with mobile terminal 3 interface identifier “If a binding acknowledgment (155) was received showing that the binding

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update (location registration) ended normally, then a home address is created from the prefix information received in step 113 and the MN3 interface identifier (114)” see Takeda: col. 15 lines 34-48).

11. Regarding claim 3, Takeda taught the home link setting method according to claim 2 as described above. Takeda further teaches the first mobile terminal is connected to the respective communication link connecting to a communication interface (MN3 interface with HA 1 to discover the home agent address using home agent interface see Fig.2 item 19; Fig.9 lines 115-116; col.6 lines 58-61),

wherein in said home agent setting step, when home agent information meets conditions specified by the network information, the internal setting is executed using acquired home agent information, whereas when the home agent information does not meet the conditions, the internal setting is executed using home agent information generated based on the network information (if receiving prefix meet the condition, search for home client identifier in the table otherwise create new entry in the prefix management table “The server section 12 of HA1 that received the DHCP Solicit message, searches the IA\_PD file of IA\_PD options for the DHCP Solicit message. The server section 12 then decides whether or not a prefix can be distributed to the received IAID (81)” see col. 11 lines 58-67 and col. 12 lines 1-4).

12. Regarding claim 4, Takeda taught the home link setting method according to claim 3 as described above. Takeda further teaches in said home agent setting step, when the internal setting is executed using the home agent information which is newly generated, a notification of the newly generated home agent information is given to all of the mobile terminals on the home link (notify all the MN of host hose network when prefix reattach “The home network might reattach

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a prefix. The Mobile IPv6 contains a function to notify the MN of the host network of prefix information for the home network. The HA checks the binding cache and notifies the MN in the binding update process with an MPA (Mobile Prefix Advertisement)” see Takeda: col.2 lines 4-9).

13. Regarding claim 5, Takeda taught the home link setting method according to claim 3 as described above. Takeda further comprising:

a step of acquiring information concerning a mobile router function stored in the first mobile terminal (Gateway requesting router function and authentication function “The gateway equipment (GW) belonging to the visited network contains a DHCP-PD requesting router function and an authentication function” see Takeda: col.4 lines 33-47),

wherein when the first mobile terminal performs a mobile router operation, a setting of a home agent corresponding to the mobile router is executed (receiving binding update from the mobile terminal and binding the cache on the Home agent “The gateway equipment (MAP) may instead contain a means to request distribution of prefix information to the HA when the gateway equipment receives a binding update request from the MN if the gateway equipment contains an HMIPv6 compatible MAP function” see col.4 lines 51-59; Fig.9 items 118-122).

14. Regarding claim 6, Takeda teaches a home gateway device having a home agent function for accommodating terminals including a first mobile terminal, comprising:

plural communication links connected to an Internet network or a local link (plural communication link connect to IP network 8 or gateway “The home network 6 is comprised of HA 1 and a DNS server 10. The visited network 5 (5a, 5b) is comprised of a radio communications device (access point) connected to MN3, a router 4 (4a, 4b, 4c, 4d), and a

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gateway equipment 2 (2a, 2b) functioning as an interface between the visited network 5 and the IP network 7” see col.6 lines 26-37; Fig.1 );

a network information processing unit transmitting a solicitation message requesting network information for setting a home network to all of the plural communication links (gateway sends solicitation message sends to all the DHCP agent and server to request information “The gateway equipment 2 sends a DHCP Solicit message addressed to All\_DHCP\_Relay\_Agents\_ and\_Servers address to discover a DHCP server capable of distributing the prefix (109)” Takeda: see col.8 lines 33-38; Fig.9 item 109) and receiving an advertisement message including the network information (gateway receives advertise message includes the IA\_PD option and client identifier option “The gateway equipment 2b receives the DHCP advertise message (110). A check is then made that the IA\_PD options and client identifier option of the received message contain correct values and that the server identifier option is included in the received message” see Takeda: col.8 lines 43-47; Fig.9 item 110);

an interface setting unit selecting a home link from among the communication links other than a communication link which has received the network information to be a home link (gateway equipment 2 send authentication reply to the MN3 that is different the communication link that GW 2b send to HA for the request network information “The gateway equipment 2 then creates a new entry in the acceptable address list 340, and sends an authentication replay containing prefix information to MN3 (113)” see Takeda: col.9 lines 1-4; Fig.9 items 109-110 and 113);

a home agent processing unit performing a home agent function with respect to mobile terminals on the home link (mobile IP procession section “The Mobile IP processing section 15



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has a home agent (HA) function for Mobile IPv6 and contains a binding cache management table 330 (FIG.3)”see col.7 lines 2-5); and

a home agent setting unit executing settings in said home agent processing unit so as to conduct the home agent function with respect to the mobile terminals on the home link (gateway equipment 2b received the IP address from the DNS server and send authentication reply to the MN 3 “The server section 12 may also use the DHCP Reply message (112 in FIG. 9) to notify the gateway equipment 2b with information such as the IP address of the DNS server 10. The gateway equipment 2b sends an authentication response containing information received from the server section 12 (76)” see Takeda: col.10 lines 56-61; Fig.9 items 109-113).

15. Regarding claim 7, Takeda taught the home link setting method according to claim 6 as described above. Takeda further teaches said interface setting unit transmits a verification message for verifying an existence of the first mobile terminal complying with a mobile IP (home address associated with mobile terminal 3 interface identifier “If a binding acknowledgment (155) was received showing that the binding update (location registration) ended normally, then a home address is created from the prefix information received in step 113 and the MN3 interface identifier (114)” see Takeda: col. 15 lines 34-48), and designates the respective communication\_link which has received a message responding to the verification message notifying the existence of the first mobile terminal, as the home link (Binding acknowledgement message “The server section 11a sends a binding acknowledgment to the MN3 (121). The binding acknowledgment that the server section 11a sends to the MN3 is stored as the following values as shown in FIG. 20” see col. 10 lines 4-16).

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16. Regarding claim 8, Takeda taught the home link setting method according to claim 7 as described above. Takeda further teaches said interface setting unit acquires home agent information stored in one of the mobile terminals connected to the home link (Gateway requesting router function and authentication function “The gateway equipment (GW) belonging to the visited network contains a DHCP-PD requesting router function and an authentication function” see Takeda: col.4 lines 33-47), and

wherein when the home agent information meets conditions specified by the network information, said home agent setting unit performs a setting of the home agent function using the acquired home agent information, whereas when the home agent information does not meet the conditions, said interface setting unit generates home agent information based on the network information and said home agent setting unit performs a setting of said home agent processing unit using the generated home agent information (if receiving prefix meet the condition, search for home client identifier in the table otherwise create new entry in the prefix management table “The server section 12 of HA1 that received the DHCP Solicit message, searches the IA\_PD file of IA\_PD options for the DHCP Solicit message. The server section 12 then decides whether or not a prefix can be distributed to the received IAID (81)” see col. 11 lines 58-67 and col. 12 lines 1-4).

17. Regarding claim 9, Takeda taught the home link setting method according to claim 8 as described above. Takeda further teaches when said interface setting unit newly generates the home agent information, said home agent setting unit notifies all of the terminals on the home link of the new home agent information (notify all the MN of host hose network when prefix reattach “The home network might reattach a prefix. The Mobile IPv6 contains a function to

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notify the MN of the host network of prefix information for the home network. The HA checks the binding cache and notifies the MN in the binding update process with an MPA (Mobile Prefix Advertisement)” see Takeda: col.2 lines 4-9).

18. Regarding claim 10, claim 10 is rejected for the same reason as claim 4 as described hereinabove.

19. Regarding claim 12, Takeda teaches a mobile terminal, comprising:

a mobile IP processing unit supporting a mobile IP protocol and receiving a verification message (home address associated with mobile terminal 3 interface identifier “If a binding acknowledgment (155) was received showing that the binding update (location registration) ended normally, then a home address is created from the prefix information received in step 113 and the MN3 interface identifier (114)” see Takeda: col. 15 lines 34-48) for verifying an existence of the mobile terminal connected on a link (mobile IP procession section “The Mobile IP processing section 15 has a home agent (HA) function for Mobile IPv6 and contains a binding cache management table 330 (FIG.3)”see Takeda: col.7 lines 2-5);

a home agent information response unit generating a response message including home agent information indicative of a location of a home agent stored in the mobile terminal upon receipt of notification of receipt of the verification message from said mobile IP processing unit (home agent discovery reply from the mobile node “The MN3 first of all, checks whether or not the source address of the Home Agent Address Discovery Reply is in the HA address (HA list). If the source address is contained in the HA list then the MN3 performs a binding update (location registration) for addresses recorded in the HA list” see Takeda: col.9 lines 38-46),

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wherein said mobile IP processing unit of the mobile terminal transmits the response message to a transmission source device which transmitted the verification message, said mobile IP processing unit further transmits another response message in which the state of its mobile router processing is written (binding acknowledge message send back that binding have been received “If a binding acknowledgment (155) was received showing that the binding update (location registration) ended normally, then a home address is created from the prefix information received in step 113 and the MN3 interface identifier (114)” see Takeda: col. 15 lines 34-48) for verifying an existence of the mobile terminal connected on a link (mobile IP procession section “The Mobile IP processing section 15 has a home agent (HA) function for Mobile IPv6 and contains a binding cache management table 330 (FIG.3)”see Takeda: col.7 lines 2-5).

20. Regarding claim 14, Takeda taught the home link setting method according to claim 12 as described above. Takeda further teaches said mobile IP processing unit transmits the response message only when the mobile terminal is connected to a home agent (the mobile IP processing in the home agent only response when request for network information “The Mobile IP processing section 15 has a home agent (HA) function for Mobile IPv6 and contains a binding cache management table 330 (FIG. 3)” see Takeda: col.7 lines 2-5).

21. Regarding claim 15, claim 15 is rejected for the same reason as claim 5 as described hereinabove.

22. Regarding claim 16, Takeda taught the home link setting method according to claim 9 as described above. Takeda further teaches said interface setting unit further acquires information concerning a mobile router function stored in the first mobile terminal (Gateway requesting router

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function and authentication function “The gateway equipment (GW) belonging to the visited network contains a DHCP-PD requesting router function and an authentication function” see Takeda: col.4 lines 33-47), and

wherein when the mobile terminal performs a mobile router operation, said home agent setting unit executes a setting corresponding to the mobile router in said home agent processing unit (home agent address discovery request to home agent and home agent reply what is request and send home agent address discovery reply back to mobile node see col.9 lines 13-29).

23. Regarding claim 17, A home link setting method by a home gateway device having a home agent function for accommodating terminals including a first mobile terminal, comprising:

transmitting, by the home gateway device, a solicitation message requesting network information for setting a home network to all communication links (gateway sends solicitation message sends to all the DHCP agent and server to request information “The gateway equipment 2 sends a DHCP Solicit message addressed to All\_DHCP\_Relay\_Agents\_ and\_Servers address to discover a DHCP server capable of distributing the prefix (109)” Takeda: see col.8 lines 33-38; Fig.9 item 109);

receiving, by the home gateway device, an advertisement message including the network information for setting the home network through a communication link connected to an Internet network (gateway receives advertise message includes the IA\_PD option and client identifier option “The gateway equipment 2b receives the DHCP advertise message (110). A check is then made that the IA\_PD options and client identifier option of the received message contain correct values and that the server identifier option is included in the received message” see Takeda: col.8 lines 43-47; Fig.9 item 110);

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selecting, by the home gateway device, a home link from among the communication links other than the communication link which has received the network information (gateway equipment 2 send authentication reply to the MN3 that is different the communication link that GW 2b send to HA for the request network information “The gateway equipment 2 then creates a new entry in the acceptable address list 340, and sends an authentication replay containing prefix information to MN3 (113)” see Takeda: col.9 lines 1-4; Fig.9 items 109-110 and 113); and

executing a setting for conducting a home agent function with respect to mobile terminals on the home link (receiving binding update from the mobile terminal and binding the cache on the Home agent “The gateway equipment (MAP) may instead contain a means to request distribution of prefix information to the HA when the gateway equipment receives a binding update request from the MN if the gateway equipment contains an HMIPv6 compatible MAP function” see Takeda: col.4 lines 51-59; Fig.9 items 118-122);

selecting, by the home gateway device, one of: (1) a first mode of operation in which the mobile terminals on the selected home link uses home agent information stored in the first mobile terminal for conducting the home agent function (home agent discovery reply from the mobile node “The MN3 first of all, checks whether or not the source address of the Home Agent Address Discovery Reply is in the HA address (HA list). If the source address is contained in the HA list then the MN3 performs a binding update (location registration) for addresses recorded in the HA list” see Takeda: col.9 lines 38-46) or (2) a second mode of operation in which the mobile terminals on the selected home link uses other home agent information for conducting the home agent function, the other home agent information being based on the received network information (when MN moved to other network “When the MN moves to a link (host link) other

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than the home link (foreign link), the MN acquires the IP address of that link. This address is called the Care of Address (CoA). The MN receives a router advertisement sent periodically by the router in the foreign link. The MN senses movement by detecting a prefix different from the home address” see Takeda: col.1 lines 29-34),

wherein the step of executing the setting causes the mobile terminals on the selected home link to conduct the home agent function in accordance with the selected first or second mode of operation (depend on the mobile node whether on the first network or foreign network to acquires HA address from different communication link of home agent “The MN acquires the address of the HA by extracting HA information from the ICMP Home Agent Address Discovery Reply signal. The MN makes a binding update (performs location registration) of the HA address it acquired” see Takeda: col.1 lines 29-34).

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

24. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. (US 7,328,014) as applied to claim 12 above, and further in view of Leung (US 6,466,964 B1).

25. Regarding claim 13, Takeda taught the home link network according to claim 12, as described above. Takeda do not explicitly disclose when said mobile IP processing unit does not support the mobile IP protocol, said home agent information response unit des not transmit the

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response message even if the mobile terminal receives the notification of receipt of the verification message from said mobile IP processing unit.

Leung teaches mobile IP processing unit does not support the mobile IP protocol, said home agent information response unit does not transmit the response message even if the mobile terminal receives the notification of receipt of the verification message from said mobile IP processing unit (The node not support the mobile IP protocol won't obtain MAC address for the gateway "Since the node does not implement the mobile IP protocol, the node function without knowledge of the operation of the Foreign Agent or virtual agent scheme" see Leung: col.14 lines 47-57). Leung further provides the advantage of enabling a node that does not support Mobile IP to roam to various Foreign Agents so that it may receive packets sent to it by a corresponding node.

It would have been obvious to one of ordinary skill in the art, having the teachings of Takeda and Leung before them at the time the invention was made to modify the home communication network of Kimura and Furukawa to include non compatible mobile IP protocol not responding to MAC address of the gateway as taught by Leung.

One of ordinary skill in the art would have been motivated to make this modification in to provide unique protocol for the mobile communication network in view of Leung.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guang Li whose telephone number is (571) 270-1897. The examiner can normally be reached on Monday-Friday 8:30AM-5:00PM(EST).



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 12, 2008

GL

Patent Examiner

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit

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